SIEMENS

MAMMOMAT *Novation*^{DR}

SP

Planning Guide

System

with DROC (Direct Ray Operation Console)

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Chapter	Page	Revision
all	all	01
all	all	02
all	all	03
all	all	04

Document revision level

The document corresponds to the version/revision level effective at the time of system delivery.

Revisions to hardcopy documentation are not automatically distributed.

Please contact your local Siemens office to order current revision levels.

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General Notes

- With distribution of these revision level, all preceding planning guides (PGs), Speed Infos and drafts lose their validity.

- All layouts issued by the Planning Departments must bear a note referring to the installation and delivery conditions of Siemens Medical Engineering. The installation and delivery conditions must be submitted with the layouts.

- Unless otherwise specified, all dimensions are indicated in "mm".

⧫ - The symbol indicates a change (see revision status).

- Orientation points
  Points specific to system components to which reference is made when positioning system components to each other or in the room.
  The isocenter of a radiographic system is always illustrated as the orientation point.

- Fixpoints
  Clearly marked points on system components, installation ceiling, walls or floor on which cable outlets are located.
  Illustration in the drawings: octagon with letter/number-combination.
  The cable lengths specify the maximum fixpoint distances and thus the maximum distances between the individual system components.

- Room height
  The room height is the distance measured from the top surface of the floor to the bottom surface of the ceiling structural elements (Unistrut rails) (bottom surface of drop ceiling).

- Room lighting
  According to DIN 68 68-57 (international standard in preparation), the lighting in rooms in which image playback devices (monitors) are used for diagnosis, the following requirements must be met:

  adjustable, no anti-glare screen, reproducible adjustment of the lighting (e.g. dimmer with scale),

  no glare or reflection from windows, lights and light boxes in the standard working position of the monitors.

Hotline + 49 (9191) 18 - 8080

Safety

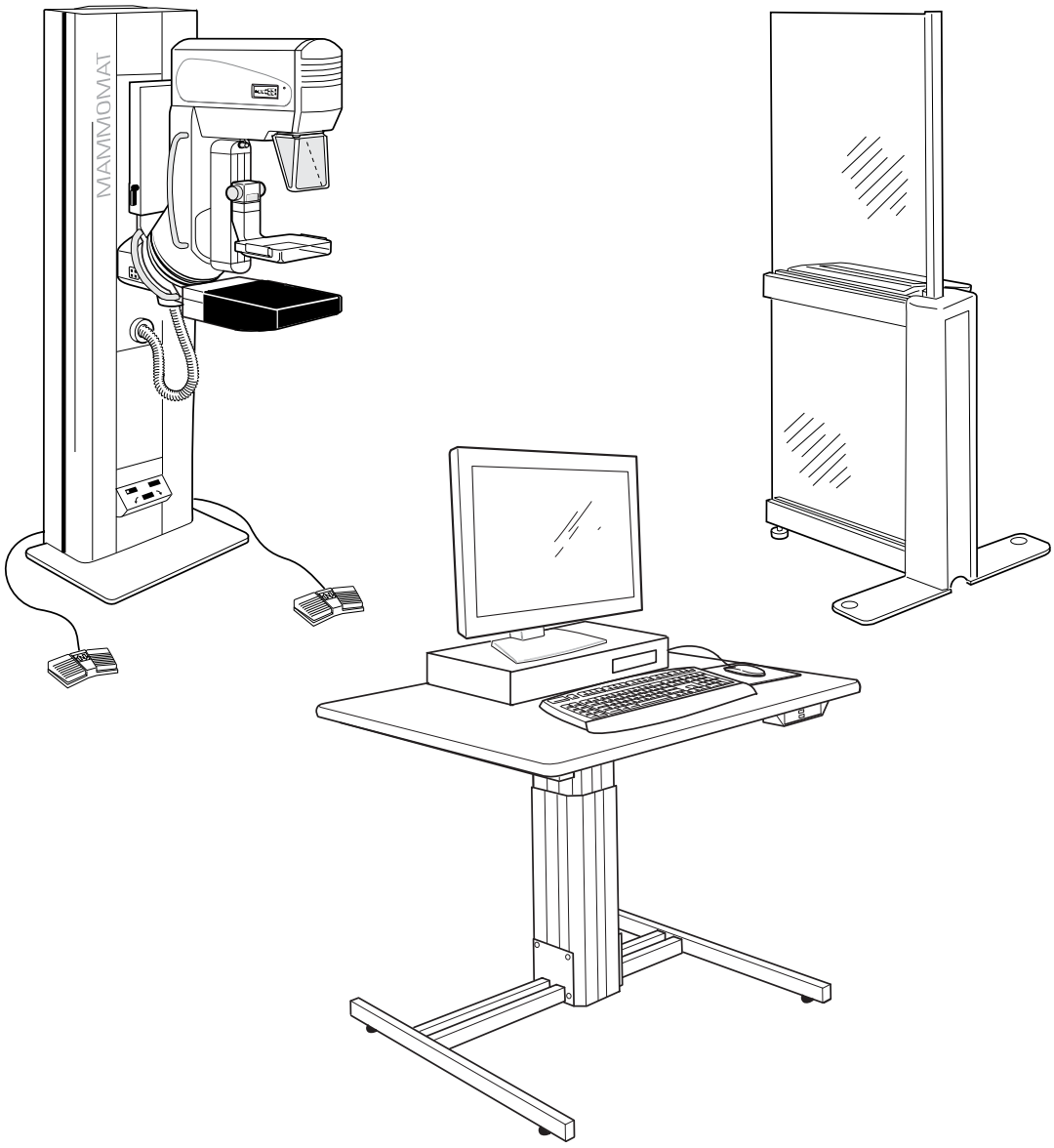
- The provisions of the relevant fire safety regulations must be observed for the premises.

- The system has been developed according to EN 60601 - 1.

- Minimum dimensions (e.g. room heights, safety distances) indicated in the planning guides are marked "min."

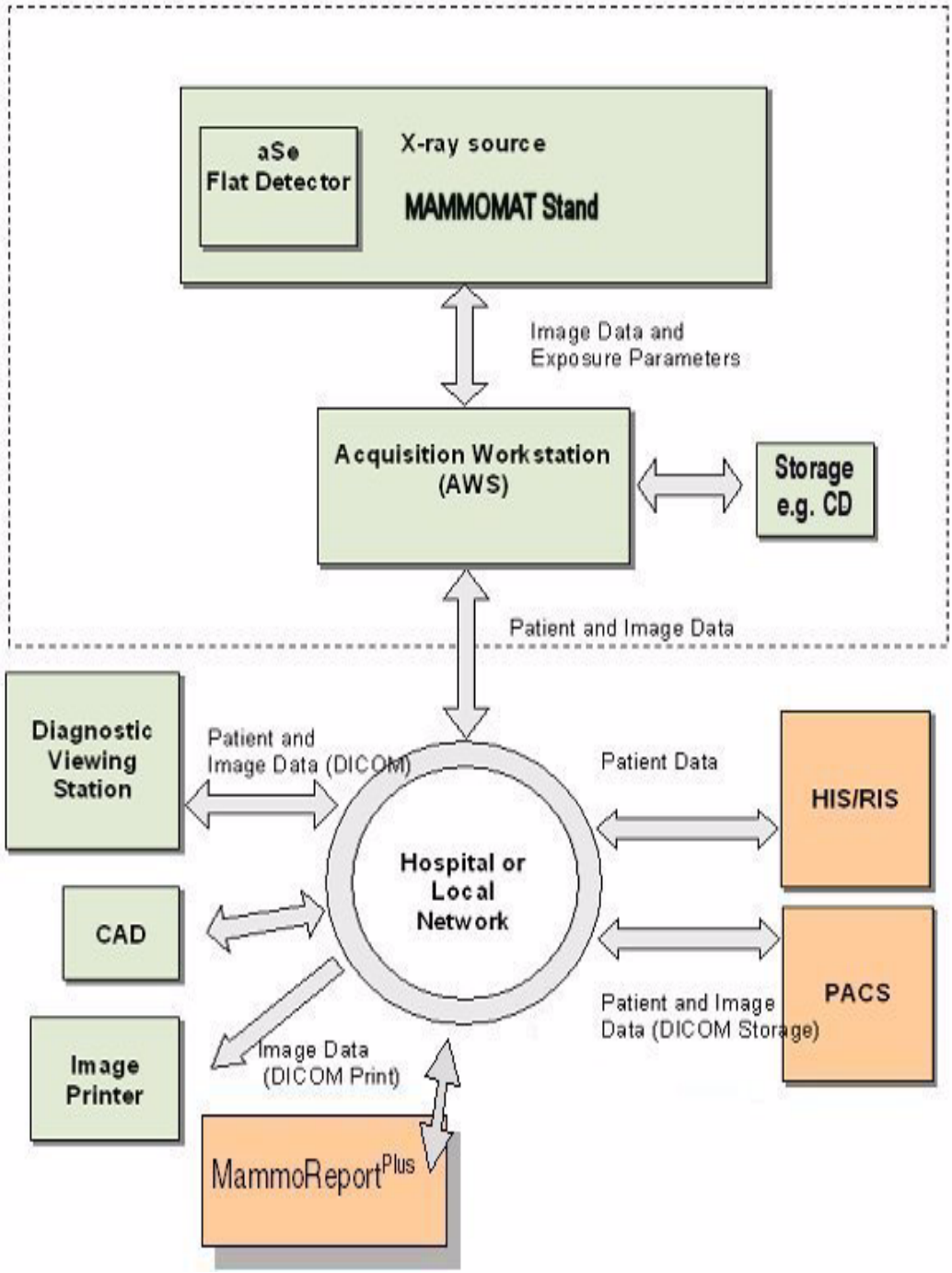
- Basic resistance to electromagnetic sources of interference.
  Result of lightning discharges.
  The protection targets of the different lightning protection areas up to the unit connection are also specified in the IEC 1024, DIN 48810, VDE 0675 and in the DEMVT recommendations.

System Overview



MAMMOMAT *Novation*DR

Overview of the MAMMOMAT system



Network

The acquisition workstation supports the TCP/IP protocol. Due to the required data volumes, we recommend a network of 100 MB/s. Please note that all required network cables, as well as the required power outlets must be available on site. If needed, an outside contractor must be obtained on site.

Software Installation

The acquisition workstation is shipped with the software already preinstalled.

DICOM

For detailed information on the DICOM, see PG TDIT-000.891.02...,
which can be found on the Intranet under: CS/ForService/Planning/General...

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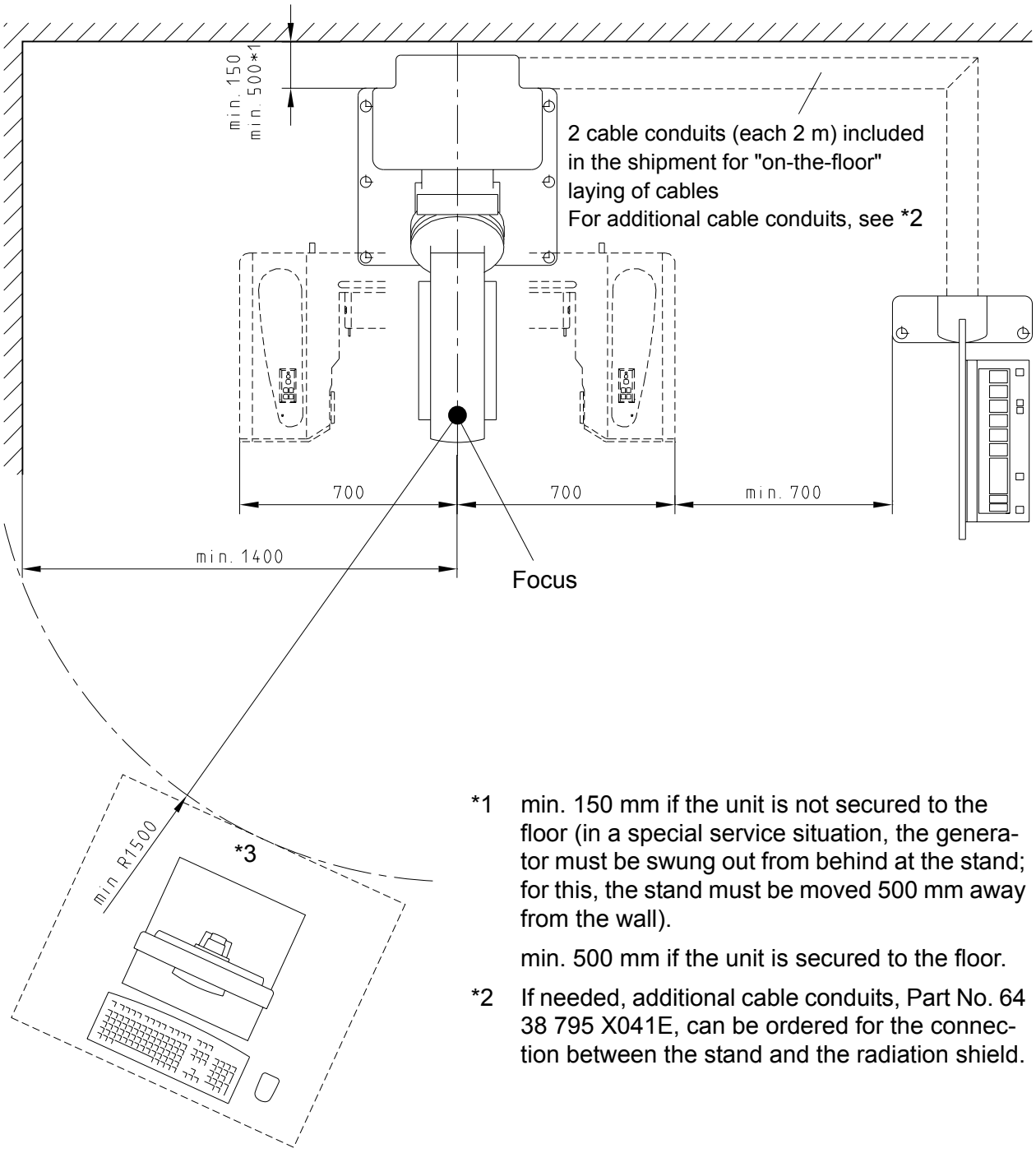
Room Planning Example 1



*1 min. 150 mm if the unit is not secured to the floor (in a special service situation, the generator must be swung out from behind at the stand; for this, the stand must be moved 500 mm away from the wall).

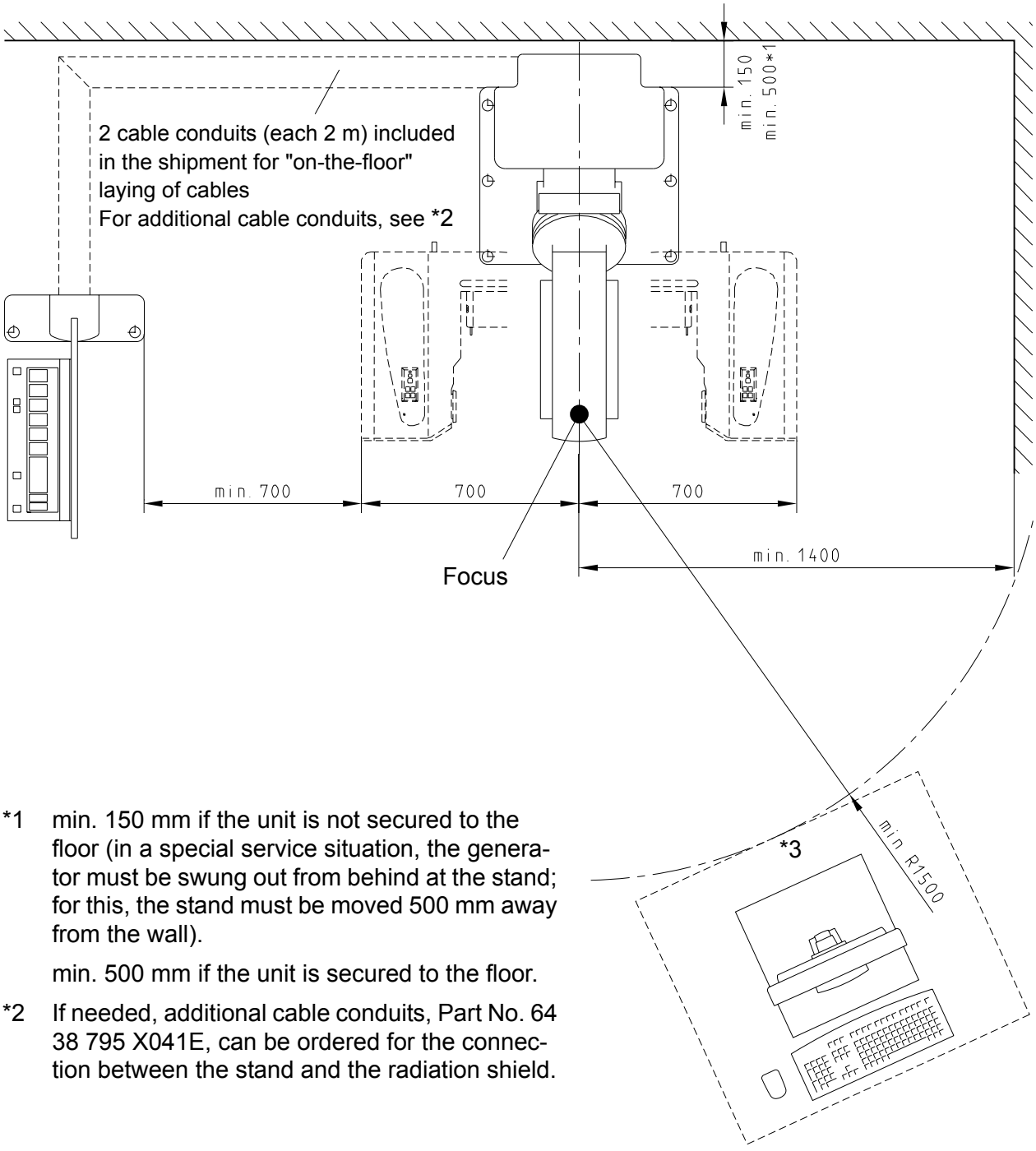
min. 500 mm if the unit is secured to the floor.

*2 If needed, additional cable conduits, Part No. 64 38 795 X041E, can be ordered for the connection between the stand and the radiation shield.

*3 For safety reasons, the acquisition workstation must be set up outside the area, per IEC 60601-1-1.

NOTE **The room planning example shows one possible arrangement of the units. Other arrangements are possible, provided the necessary unit distances based on the available cable lengths are maintained.**

Room Planning Example 2



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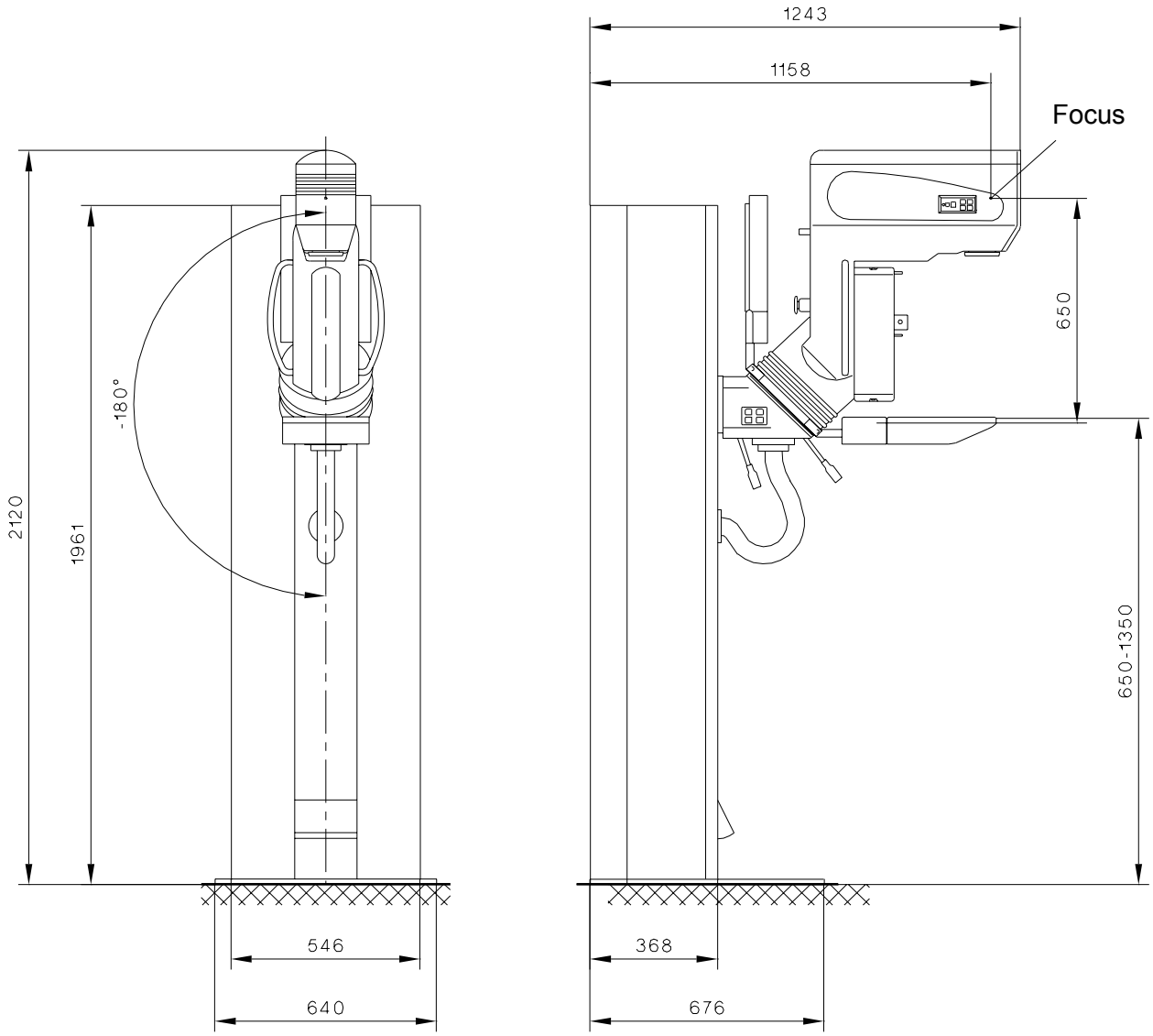
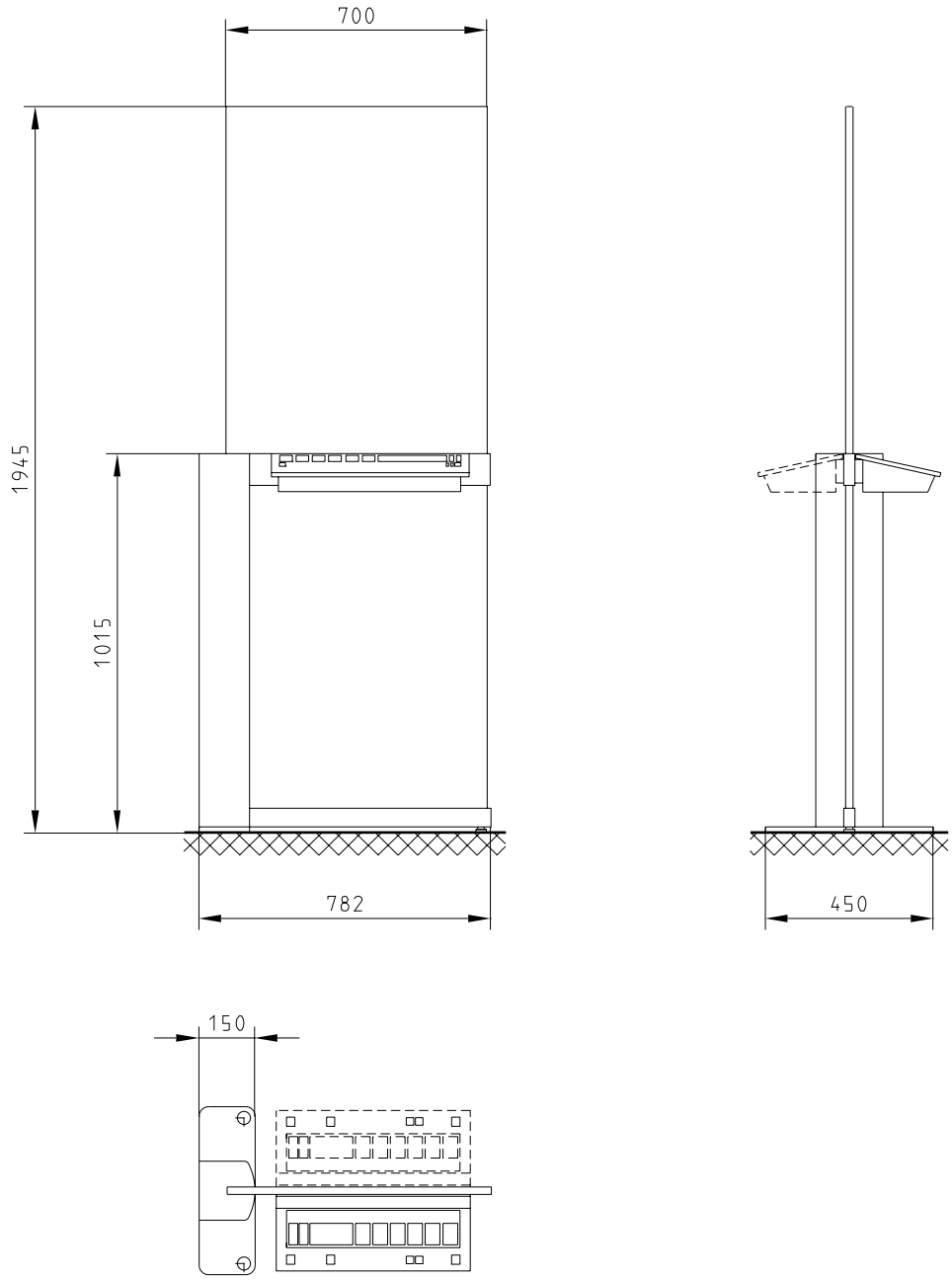
Stand Dimensions



Radiation Shield Dimensions (Option)

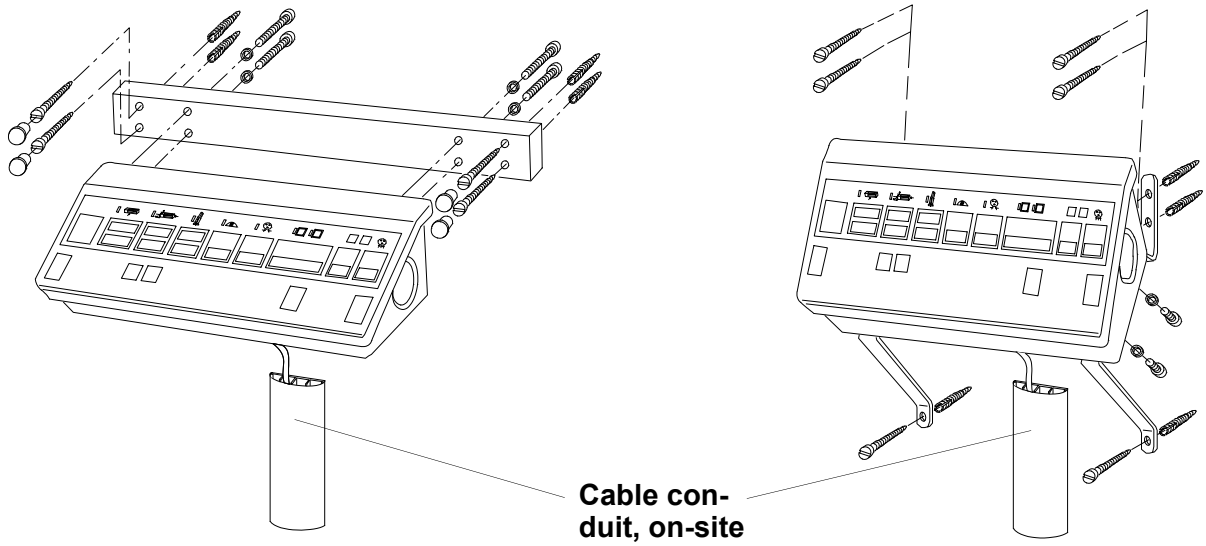


Installing the Control Console on the Wall or on a Table

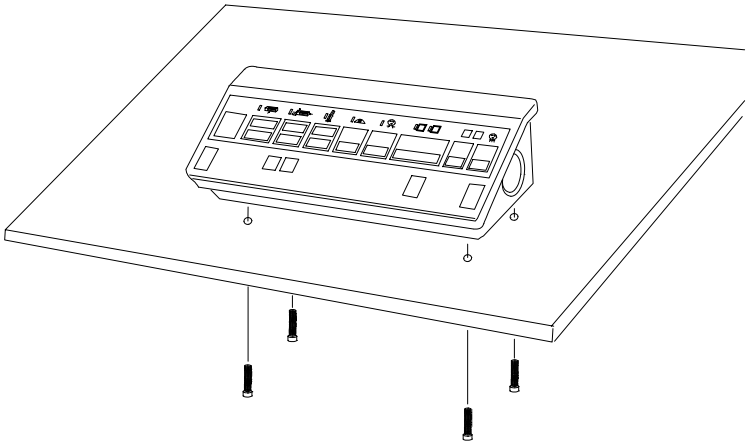
If the system is not equipped with the optional radiation shield, install the control console on the wall or on a table that is located behind one of the on-site radiation shields. The parts required for vertical or horizontal installation of the control console on the wall are included in the shipment.

NOTE	**Screw anchors and screws are not included in the shipment. Please obtain these locally and make sure that they are suitable for the particular type of wall construction.**

Installing the Control Console on the Wall (two possibilities)

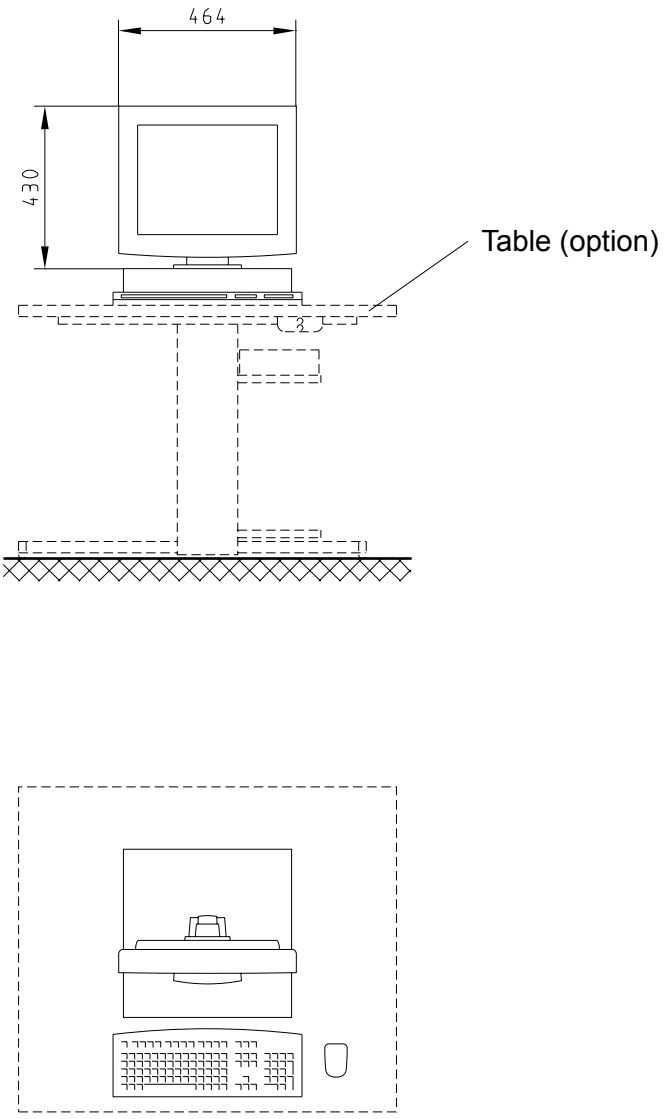


Installation of the Control Console on a Table



Acquisition Workstation

Comprised of: 18" color display, PC, keyboard, mouse



1 : 20

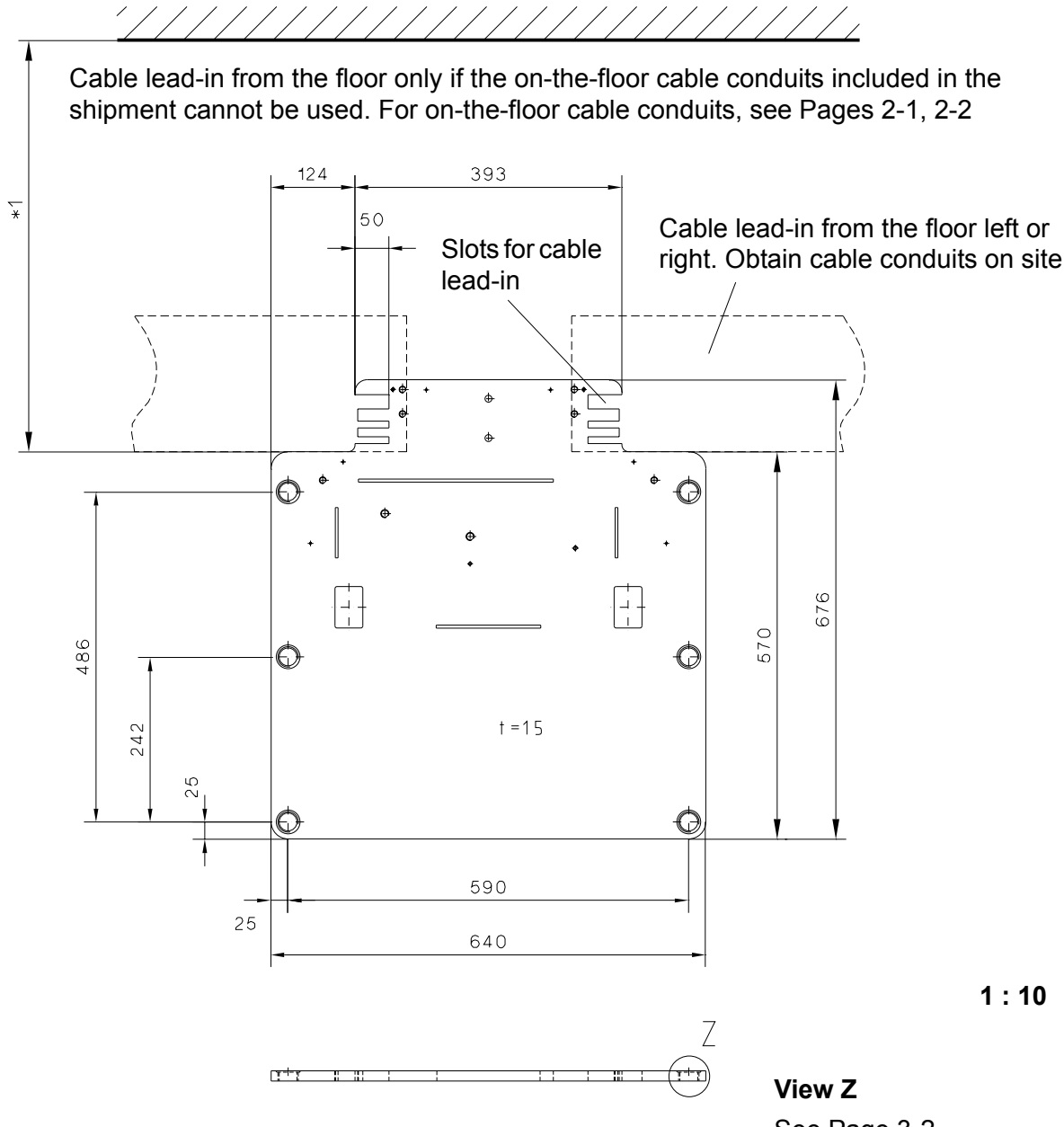
The height of table for the acquisition workstation can be adjusted using a motor.

NOTE	**If the table (option) for the acquisition workstation is not ordered, it must be provided by the customer.**

Stand Floor Plate

(The floor plate is designed to also be the unit base)

If due to local regulations (e.g. in earthquake regions) or due to the quality of the floor covering, floor installation is required, the stand can be installed using heavy-duty expansion bolts or threaded rods (with a counter-plate). Heavy-duty expansion bolts and threaded rods must be obtained locally.



1 : 10

View Z

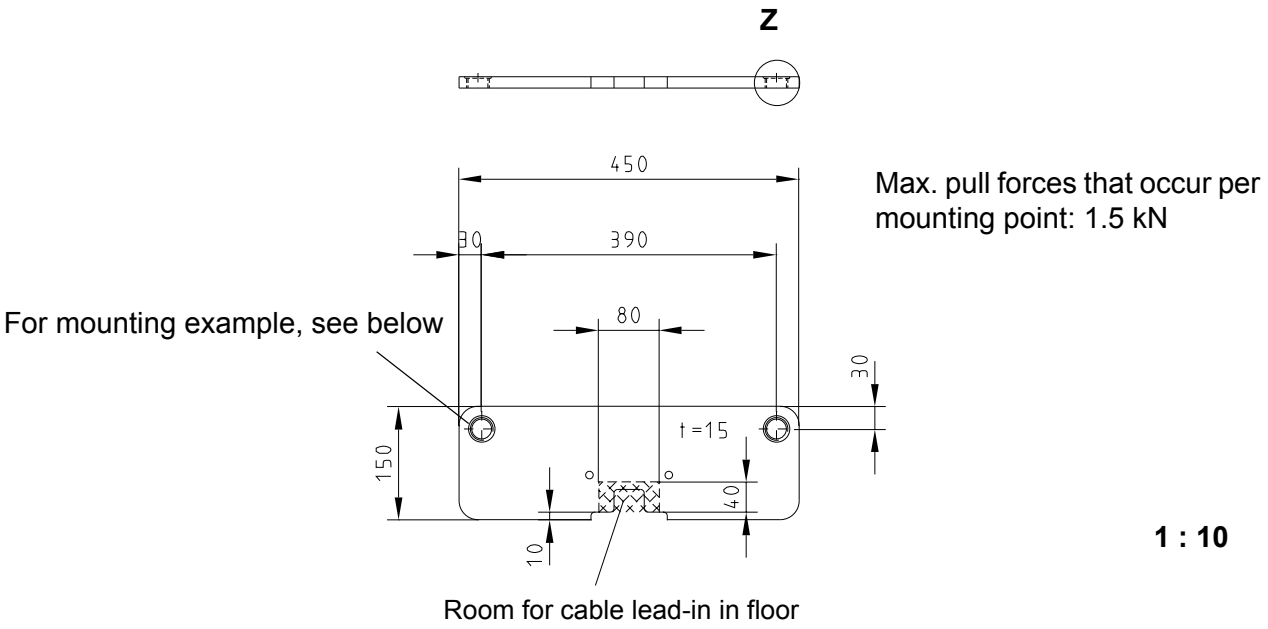
See Page 3-2

*1 See *1 Pages 2-1, 2-2

The max. pull forces that occur per mounting point: 1.5 kN

Radiation Shield Floor Plate (Option)

The radiation shield must always be installed on the floor in accordance with IEC 60601-2-32.

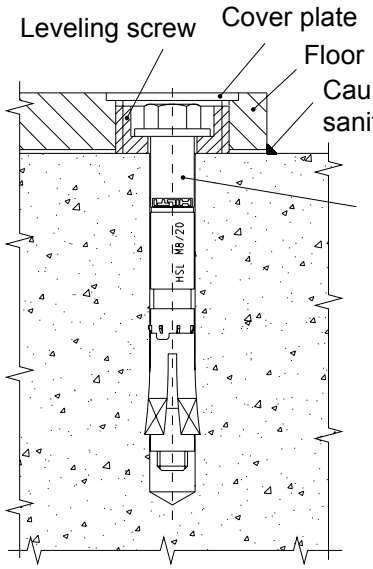


Max. pull forces that occur per mounting point: 1.5 kN

1 : 10

Installation example

Z (1 : 2)



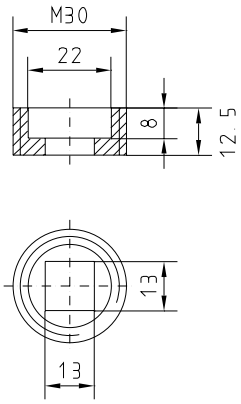
E.g. Hilti heavy duty anchor bolts HSL M8/20

If safety screws are used, the manufacturer's specifications and instructions must be observed

With installation on the a solid floor, cut out the floor covering. Concrete quality for the solid floor, min. C20/25

Mounting materials must be obtained locally.

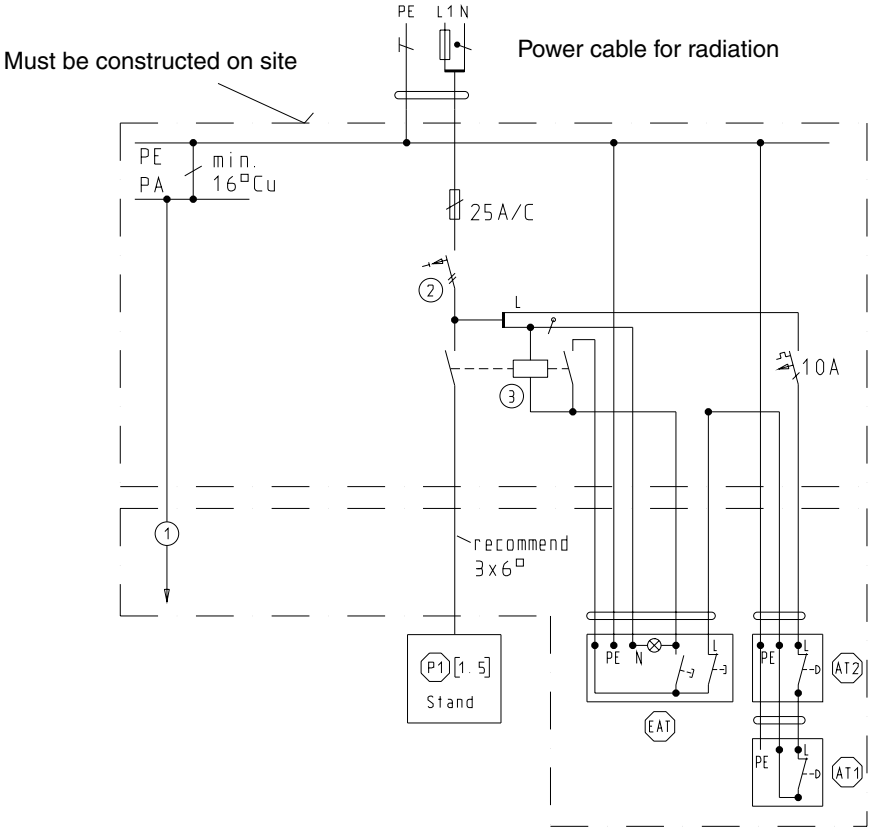
Leveling screw



1 : 2

On-site Electrical Installation

Recommendation for an on-site power distributor per DIN VDE 0100-710 or national regulations



(1) To external conductive parts

(2) FI switch, 63 A/I $_{\Delta}$N 30 mA, U_N = 400/415 V ~ for AC current and pulsed DC fault currents (recommendation: Siemens FI 5SZ3 466 0KG05 all current sensitive or ABB No. F 804 - 63 /0.03. Can be ordered from ABB Stotz - contact Heidelberg, Tel. 06221 701-00). For other power line voltages, an appropriate FI switch must be obtained locally.

(3) System power switch

(AT) Emergency off switch with latch mechanism

(P1) SIEMENS

(EAT) On/off switch with pilot lamp

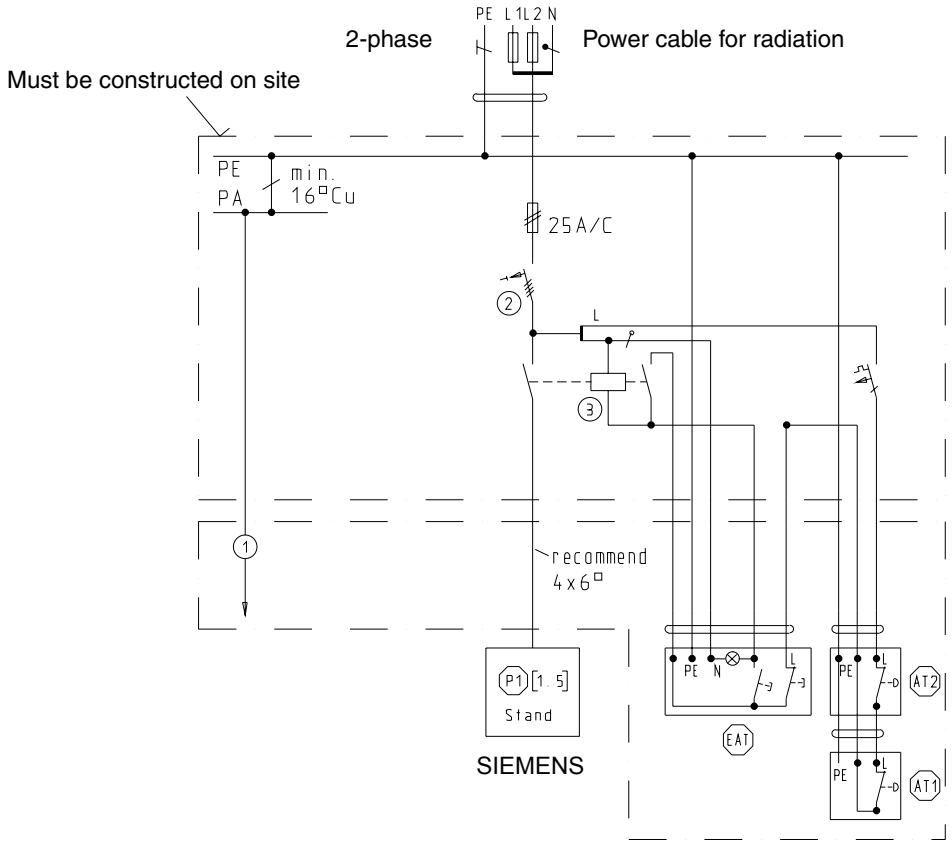
[ ] Data corresponds to free lengths in m

This is a dedicated power cable. Thus the following may not be connected:

- Electrical systems
- Heating/air conditioning units
- Elevators
- General electrical equipment

On-site Electrical Installation

Recommendation for an on-site power distributor per DIN VDE 0100-710 or national regulations



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Remarks Regarding Laying of Cables

Recommendation for Laying Cables

Cable trough depth: 60 mm

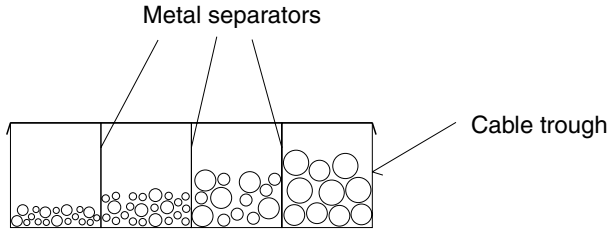
if there are cross-overs, it may be necessary to provide greater depth.

Lay high voltage cables and power cables separately from signal cables and video cables (if possible, provide shielding measures).

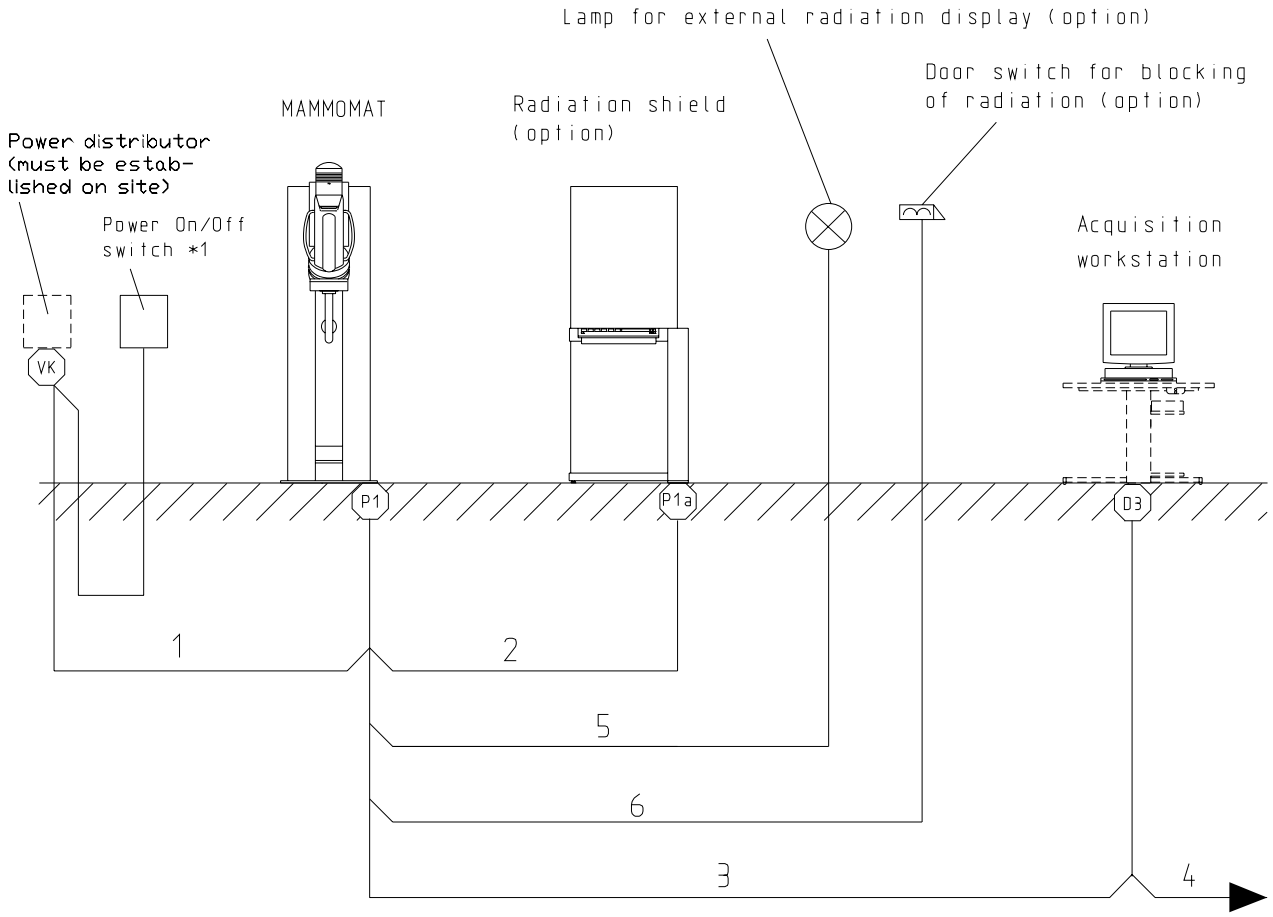
Absolutely observe:

Avoid creating cable coils, avoid cable cross-overs.

- Lay in separate conduits or closed cable troughs.
- If laying in open cable troughs, lay cables separately using metal separators or a similar device.



Fixpoint Overview



*1 Mains power on/off switch is necessary in the installation room, to be able to switch off the entire power to the system, for service and maintenance purposes.

Fixpoint List

Wiring Harness No.	from Fixpoint	to Fixpoint	Cable Channel Cross Section in mm^2	Conduit, dia. in inches	Minimum Opening in mm	Maximum Fixpoint Distance in m	Remark
1	VK	P1	—	—	—	—	Power cable, on site
2	P1	P1a	500	1 1/4	Ø 30	10	Control console cable, shipped length: 11.5 m
3	P1	D3	45	3/4	Ø 15	7.5	Fiber optic cable, shipped length: 10 m
4	D3	Clinic network	45	3/4	Ø 15	3.5	Ethernet cable, shipped length: 3.5 m
5	P1	Lamp	—	1/2	Ø 10	—	On-site cable, 3 x 1.5 mm, shielded
6	P1	Door switch	—	1/2	Ø 10	—	On-site cable, 3 x 1.5 mm, shielded

List of Fixpoints Used

Fixpoint	Subsystem	Remark
D3	Acquisition Workstation	Floor fixpoint
P1	MAMMOMAT *Novation*^{DR}	Floor fixpoint
P1a	Radiation shield	Floor fixpoint
VK	Power distributor box	Wall fixpoint

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Electrical Data

Power line connection	1~/2~208, 230, 240, 277 V, ±10%, 50/60 Hz 2~400 V, ±10%, 50/60 Hz Input fusing: 25 A	
Power cable	Recommended cable cross section: 6 mm^2	
Internal power line resistance, Ri	U_N[V] 208 230 240 277 400	Ri_{max}[Ω] 0.45 0.50 0.60 0.65 0.85
Fusing (internal)	30 A at 208, 230, 240, 277 and 400 V	
I max.	40 A at 230 V, 35 A at 400 V (2-phase)	
Power consumption	Short-term power consumption, approx. 10 kVA	Long-term load, approx. 0.8 kVA
Power factor (cos φ)	0.6 at 230 V	
Connection value	4.6 kVA at 230 V	

Environmental Conditions

	Operation	**Transport/Storage MAMMOMAT**	**Transport/Storage Detector in packaging**
Adm. ambient temperature	+ 20° ... + 30° C	- 10° ... + 70° C	+ 10° ... + 40° C
Adm. rel. humidity (non condensing)	30% ... 70%	10% ... 95%	10% ... 80%

Dimensions, Weight and Heat Dissipation

	Dimensions (W x D x H) [mm]	**Weight [kg]**	**Heat Dissipation [W]**
Stand with floor plate and generator	—	approx. 360	approx. 800
Control console	520 x 200 x 80	approx. 4	approx. 80
Radiation shield with floor plate	—	approx. 50	—
Workstation	445 x 97 x 445	approx. 12	approx. 100
18" color display	464 x 240 x 430	approx. 10	approx. 75

Packaging and Transport Routes

Largest crate	**Crate Dimensions L x W x H** [**mm**]	**Weight** [**kg**]
Stand	2100 x 800 x 1500	approx. 525
Radiation shield, Acquisition Workstation & accessories	2100 x 800 x 1200	app. 220-300 *1
Detector	900 x 800 x 600	approx. 40

*1 depending on the order

Paint Colors

Basic color	Medical White A610
Combination color	Neutral Gray C612 Medical Blue, Med C750

Chapter	Page	Change
0 - 6		Rev. level of the document increased from 03 to 04.
5	5-1	Environmental Conditions at operation updated.
6	6-1	Changes to Previous Version updated.

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